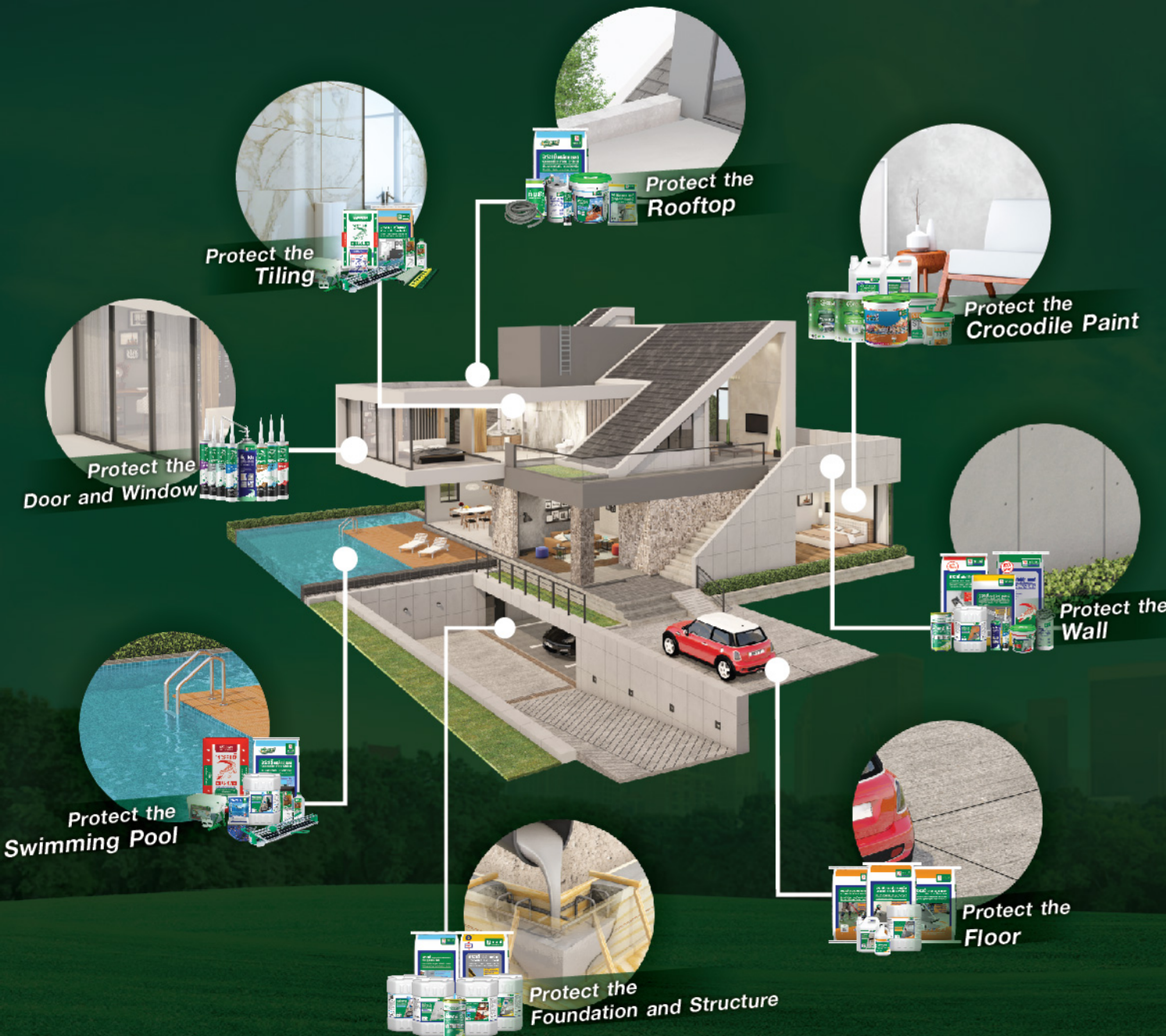


CROCODILE Total Home Protection



The basic information for the user.



CROCODILE
Innovation for Your Family's Happiness



FLOOR

PROTECT THE FLOOR

Architectural design by A49

Innovation for Your Family's Happiness

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U.S.A. Standard from the Crocodile Family

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FLOOR

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Construction of buildings such as houses, shopping malls, hotels or industrial plants needs flooring that can handle different uses. As there are many types and materials for the floor, loadbearing capacity and use must be taken into consideration. Strength needs special protection.

Recommended to use **Crocodile Together, Protect the House.**

Flooring can be divided into two major types by use:

1. Residential flooring
2. Industrial flooring

FLOOR

1 Residential flooring



There are two common types of reinforced concrete floor for house construction

- Cast-in-Place concrete slabs
- Precast concrete slabs



- ✓ Easy to work with
- ✓ Good loadbearing capability
- ✓ Smoothly leveled



Construction of both types of flooring needs extensive levelling especially interior work that might have covering such as big slabs, rubber tiles, laminated tiles, parquet tiles, carpets, or any other types of floor covering. If the original floor is not smooth or level enough, the finished work will not be sharp in appearance and might have adhesion issues due to weak or rough floor.



Floor levelling

Should use material that can handle use yet easy to work with and can be levelled nicely.

Interior floor it is recommended to use **Crocodile Primer S** and level the floor with **Crocodile Self - Levelling** as it is specifically designed to level the floor by itself without the need to use a trowel.

Exterior floor can be naked or covered with covering. If the floor is concrete, the surface must be resistant against brushing, friction and weight from movement. If covering is used, for example covering of the parking lot inside the house, durability and loadbearing capacity must be considered as well.



Crocodile Primer S
Primer for levelling cement



Crocodile Self - Levelling
Free-flowing levelling cement

2 Industrial Flooring



Due to the unique purpose of floor in public buildings, industrial plants, warehouses, parking lots or exhibition halls, the floor is designed to be especially strong for heavy traffic, heavy machinery and friction. Therefore, the flooring material must be very durable, and over time the surface might be corroded due to friction from heavy use. Currently, products to increase surface strength are available in both powder and liquid form for convenience.



Freshly - poured concrete (drying concrete)

Use **Crocodile Floor Hardener** (powder Floor Hard) to strengthen the concrete surface.

1. After pouring the concrete, wait until the concrete starts setting and having water on the surface.
2. Sprinkle the **Crocodile Floor Hardener** and leave the **Crocodile Floor Hardener** to absorb moisture from the concrete surface.
3. Before using the concrete polisher, make sure the concrete is strong enough to bear the weight of both the machine and operator.



Fully - set concrete or old concrete floor (at least 14 days)

Use **Crocodile Liquid Floor Hard Plus** (liquid Floor Hard) to strengthen the concrete surface and reduce permanent stain.

1. If more shine is needed, the surface must be polished before cleaning.
2. Apply a few layers of **Crocodile Liquid Floor Hard Plus**, leave to dry at least 2 hours before applying the next layer.
3. Leave for 24 hours to fully dry before opening the area. The area can fully bear the weight after seven days.

Crocodile Liquid Floor Hard Plus can shine by polishing.



In case of naked concrete floor, tiled floor, polished stone floor, or floor that needs exceptionally perfect shining such as shopping mall, exhibition center, maintenance center, or office, **Crocodile 9602 S** coating solution that will protect the floor from dirt, or **Crocodile 9102 W**, semi-glossy coating solution that protect the floor from water and stain.



Crocodile Floor Hardener
Increase strength of the floor



Crocodile Liquid Floor Hard Plus
Coating solution to increase strength



Crocodile 9602S
Coating solution to prevent stain.



Crocodile 9102W
Coating solution to protect the floor and wall from stain.

“ Nowadays, floor hardening can be done by using either Crocodile Floor Hardener or Crocodile Liquid Floor Hard Plus, depending on what being worked on. Powder hardener is used during pouring, right when the concrete is setting. You can sprinkle the powder on the surface and polish it to bond everything together. Liquid hardener is sprayed or painted on the completely dry concrete surface. This one you do not need skilled workers. The liquid hardener can be used with progressive polishing to make the crystal floor ”

Comparison between Crocodile Floor Hardener and Crocodile Liquid Floor Hard Plus



Crocodile Floor Hardener



Crocodile Liquid Floor Hard Plus

	Crocodile Floor Hardener	Crocodile Liquid Floor Hard Plus
Type	Powder	Liquid
New work	✓	✓
Old work	✗	✓
Interior - exterior	✓	✓
Use	Sprinkle on the wet concrete and polish with machine	Spray or paint (polishing is optional)
Reduce dust during work	✗	✓ (Dustless)
Increase surface strength	✓	✓
Prevent cement dust	✓	✓
Resistant to brushing	✓	✓
Reduce water permeability	✓	✓✓
Easy to clean	✓	✓✓
Shades available	✓	✗

How to fix cracked or loose concrete surface ?

Currently houses, factories, warehouses, parking lots and other public areas are usually built with polished concrete or just naked concrete due to heavy, constant traffic. Naked concrete is the best answer for such use due to high durability, resistance against friction, low chance for damage and good load-bearing ability. But if the concrete is actually damaged, repair will be difficult, and one should be careful about selecting a product to repair the concrete to accommodate long-term use and prevent repeating problems that will result in further loss of time and money.

Damage to the concrete floor has many causes, such as structural subsidence, concrete shrinkage, rusting of rebar and other damage that might arise out of incorrect concrete selection. Repairing such damage requires consulting with the structural engineer for correct method.



Damage to the concrete surface such as from solid objects, brushing, friction that corrode or damage the surface, or age-related wear and tear, does not look severe in itself. But water or foreign object can easier seep into the concrete through the damage, leading to rusting of rebar, and structural problems. Damage to the concrete surface can happen in many forms such as flaking, dusting or potholing, each having different cause and solution.



1. Flaking

Cause : Weak concrete surface (or heavy traffic). When hit by stronger object or exposed to the elements to the point of contracting or expanding, the concrete will be damaged, flaking and potholing. Extent of the damage should be inspected.

Solution :

The damaged surface should be removed to the intact part, and repair as follows :

Thickness between 1-2 millimeters :

1. Clean the surface of all grit, dust, oil and concrete flakes. Use **Crocodile Floor Smooth Patch** to repair the surface by plastering at not more than 2mm thick. Leave for 24 hours before opening the area for light traffic, and 48 hours before heavy traffic.

Thickness less than 10 millimeters :

1. Use **Crocodile Floor Smooth Base** to increase thickness to between 2-10 millimeter, leave for 4-6 hours.
2. Use **Crocodile Floor Smooth Patch** to repair the surface by plastering not more than 2mm thick. Leave for 24 hours before opening the area for light traffic, and 48 hours before heavy traffic.



Crocodile Floor Smooth Base
Ready - to - use cement for floor repair and increase thickness of thin concrete floor.



Crocodile Floor Smooth Patch
Thinset floor repairing cement



2. Dusting

Cause : Low surface strength. When brushed by stronger objects, parts of the surface will be powdered and loosen. The concrete surface will be corroded and rough.



3. Degraded, potholed concrete surface

Cause : Because of the concrete strength less than the force acting. So causing damage to the concrete surface

Solution :

Depth and width damage should be taken into consideration. In some cases, fractures should be chiseled wider and deeper. Concrete bonding agent should be used to increase adhesion between the old concrete surface and repairing cement, and only the dedicated product for floor repair should be used. Currently there are new innovations that can be thinly applied yet having high strength, can be worked with easily and is not an excessive burden to the floor.

Potholed concrete surface

1. Apply **Crocodile Acrylic Bondcrete** on the surface.
2. Use the concrete repairing cement **Crocodile Repair Mortar**, **Crocodile Feather Patch** or **Crocodile Acrylic Patch** (depending on the size of the crack) to fill the cracks. For cracks between 1-13 millimeters in size **Crocodile Feather Patch** should be used, while **Crocodile Acrylic Patch** is good for cracks between 15-50 millimeters in size. For high pressure area or cracks between 3-40 millimeters, use **Crocodile Repair Mortar**.
3. Use **Crocodile Floor Smooth patch** an innovative thin repairing cement similar to floor skimming. Plaster the cement not more than 2mm in thickness, leave for 24 hours before opening for light traffic and 48 hours before heavy traffic.



Crocodile Floor Smooth patch
Thinset floor repairing cement



Crocodile Repair Mortar
Structural repairing cement



Crocodile Acrylic Patch
Structural repairing cement



Crocodile Acrylic Bondcrete
Concrete bonding agent and fortifier



Crocodile Feather Patch
Thinset surface repairing cement

TECHNICAL DATA



Crocodile Smooth Patch
Thinset floor repairing cement

The first
in innovation

- Thinnest thickness is 1-2 millimeters
- High adhesion, can stick on the original surface.
- Resistance against brushing, can be left naked, good for traffic area.
- Can be used to repair slopes without flowing.
- The area can be opened in 24 hours (for normal traffic) and 48 hours (for car traffic)

Technical data

Test method	Standard	Evaluation
Pot Life	>3 hr	4 hr
Compressive Strength 3 days 7 days	EN 13892-2 EN 13892-2	> 1.4 N/mm ² > 1.5 N/mm ²
Flexural Strength 1 day 3 days	EN 13892-2 EN 13892-2	> 1.3 N/mm ² > 5.5 N/mm ²



Crocodile Floor Hardener
Floor fortifying cement

- Increase strength of the floor, extending lifespan.
- Metal-free, no rust and good for wet areas.
- High loadbearing capacity without dusting.
- 300% more resistance against friction compared to normal concrete.
- Smoother and densify the surface, preventing permeation of fuel and lubricant.
- Easy to clean and does not corrode if a cleaning machine is used.

Technical Data

Test Method	Standard	Evaluation
Moh's scale of Hardness at 28 days		8-9



Crocodile Floor Smooth Base
Ready-to-use thinset cement for floor repair and fortifying

- For repairing damage of 2-10 mm in depth
- High adhesion
- Good for traffic area
- Can be used to repair slopes.

Technical Data

Test Method	Standard	Evaluation
Pot Life	>3 hr	4 hr
Bonding Strength 1 cm 3 days 7 days	EN 13892-8	0.790 N/mm ² 0.810 N/mm ²
Compressive Strength 3 days 7 days	EN 13892-2	27.470 N/mm ² 32.880 N/mm ²



Crocodile Liquid Floorhard Plus
Liquid surface coating

- Fortify the floor against water and stain
- Prevent dusting
- Can be used inside and outside the building, old or new concrete.
Easy to clean, no erosion when a cleaner is used.

Technical Data

Test Method	Standard	Evaluation
Drying time	In house	2 hr
Abrasion Resistance at 28 days	ASTM C944	0.15 % (Weight Loss)
Moh's scale at 28 days	In house	8-9
Complete dry	In house	7 Day



Crocodile Self-Leveling
Free-flowing leveling cement



- Can freely level the surface without using trowel.
- Good flow, can be poured by hand or pump.
- Strong, non-shrinking or dusting surface.
- Quick drying, can bear weight in little time
- Good adhesion to the old surface.
- Good for all surface leveling works.

Technical Data

Test Method	Standard	Evaluation
Compressive Strength at 28 days	EN 13813	>29 N/mm ²
Flexural Strength at 28 days	EN 13813	>8 N/mm ²
Linear Shrinkage at 28 days	DIN 52450 EN 12808	0.57 mm/M



Crocodile 9102W
Liquid coating for floor and wall

- Prevent permeation of water, moisture and stain.
- Quick drying, easy to clean
- UV-resistant, can be used inside and outside.

Technical Data

Test Method	Standard	Evaluation
Drying Time Surface dry Hard dry	TIS 285	39 min 0.73 hr
Flash point	ASTM D93	>100 °C Nonflammable
Abrasion Resistance (Weight loss) - 0 cycle/Weight - 200 cycle/Weight - 500 cycle/Weight - 1000 cycle/Weight	ASTM D2486	1001.75 g 1000.02 g 951.95 g 935.18 g



Crocodile Primer S
Liquid primer for leveling cement

- Increase adhesion between leveling cement and original floor.
- Reduce bubble on the leveling cement.

- High compressive strength
- Can repair cracks, chips, potholes of between 3-40 mm/
- Can be used for vertical and horizontal repair.

Technical Data

Test Method	Standard	Evaluation
Drying Time Surface dry Hard dry	TIS 285	1 hr 1.21 hr
Flash point	ASTM D93	30 °C
Abrasion Resistance (Weight loss) - 0 cycle/Weight - 200 cycle/Weight - 500 cycle/Weight - 1000 cycle/Weight	ASTM D2486	1040 g 1038.40 g 1031.10 g 1026.88 g



Crocodile 9602 S
Liquid coating

TECHNICAL DATA



Crocodile Repair Mortar
Structural repairing cement

- High compressive strength
- Can repair cracks, chips, deep holes between 3-40 mm in size.
- Can be used for vertical or horizontal repairs.

Technical Data

Test Method	Standard	Evaluation
Compressive Strength at 28 days	ASTM C109	>600 ksc
Flexural Strength at 28 days	ASTM C348	>70 ksc
Bond Strength by Slant Shear at 28 days	ASTM C882	>95 ksc



Crocodile Feather Patch
Thinset repairing cement

- Repair cracks and chips with thickness of 1-13 mm
- Low water absorption
- Good moisture retaining, can brew itself.

Technical Data

Test Method	Standard	Evaluation
Compressive Strength at 28 days	ASTM C109	>36 Mpa
Flexural Strength at 28 days	ASTM C348	>9 Mpa
Bond Strength by Slant Shear at 28 days	ASTM C882	>4 Mpa



Crocodile Acrylic Bondcrete
Concrete bonding and fortifying agent

- Painted to bond the old and new concrete
- Increase adhesion and resistance against impact, scraping, moisture or chemicals.
- Increase flexural strength for repair paste.

Technical Data

Test Method	Standard	Evaluation
Compressive Strength at 28 days	ASTM C109	>28 Mpa
Flexural Strength at 28 days	ASTM C348	>9 Mpa
Bond Strength by Slant Shear at 28 days	ASTM C882	>4 Mpa

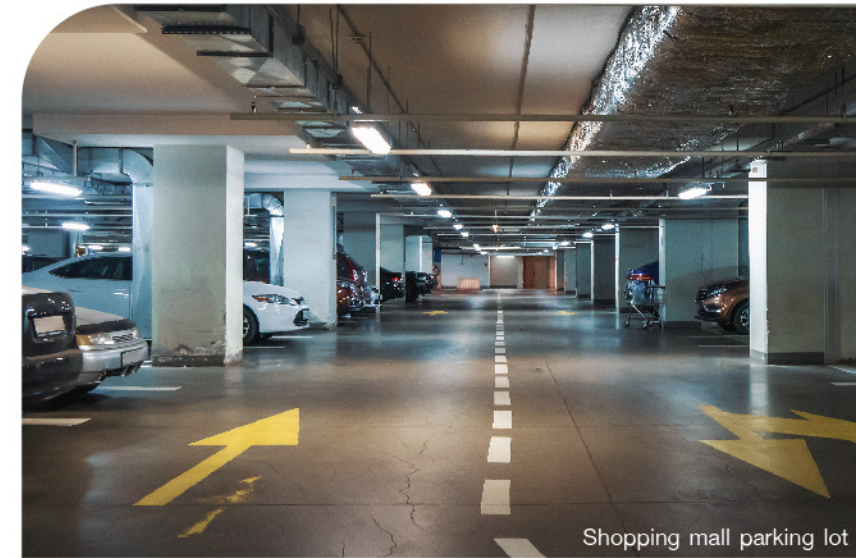


Crocodile Acrylic Patch
Structural repairing cement

- Can be used to repair structure at thickness between 13-50 mm
- Good adhesion, high flexural and bond strength.
- Compressive strength of over 360 ksc
- Can be used for overhead repair
- Quick drying
- Resistance against abrasion and freezing temperature

Technical Data

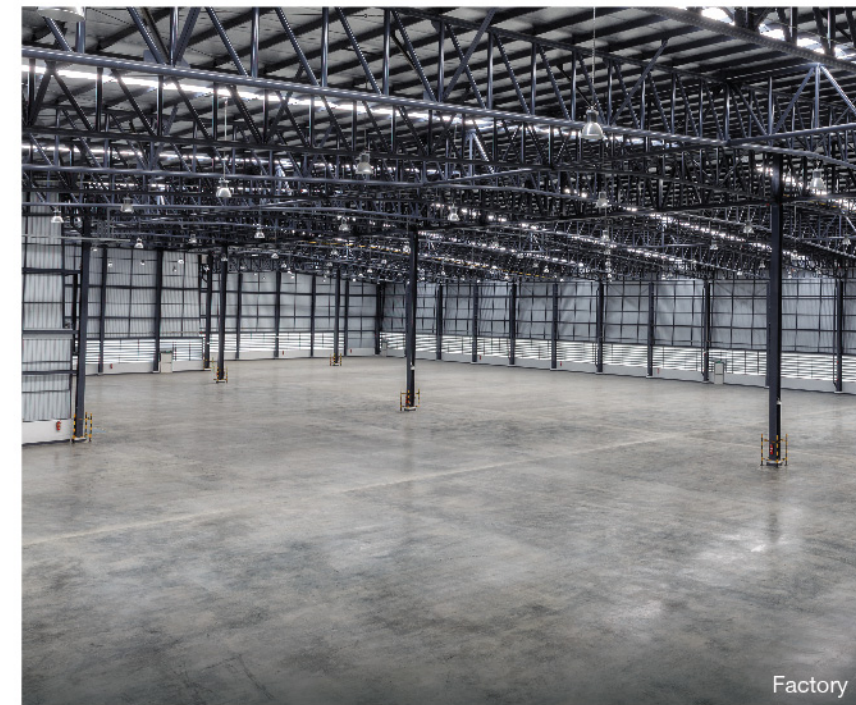
Test Method	Standard	Evaluation
Compressive Strength at 28 days	ASTM C109	>36 Mpa
Flexural Strength at 28 days	ASTM C348	>10 Mpa
Bond Strength by Slant Shear at 28 days	ASTM C882	>3 Mpa



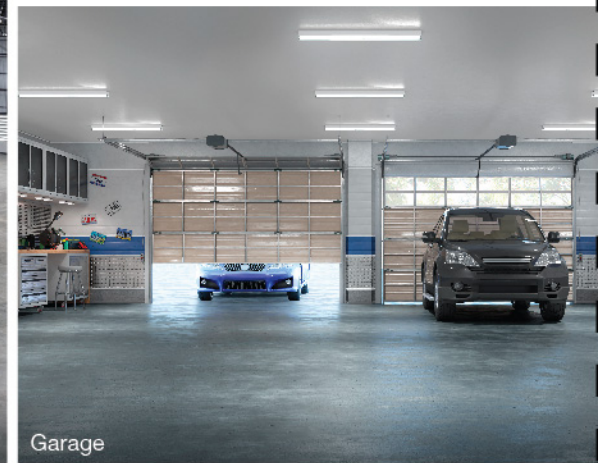
Shopping mall parking lot



Residence



Factory



Garage



Living Room